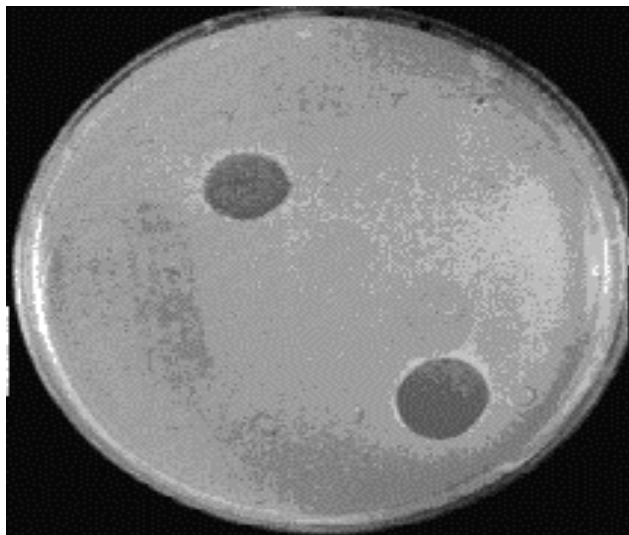


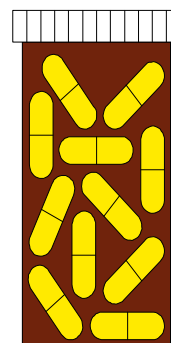
# **LOUISIANA STATE ANTIBIOTIC SENSITIVITY ACTIVE SURVEILLANCE SYSTEM**



**Louisiana Office of Public Health, Infectious Disease Epidemiology Section**  
**325 Loyola Ave, Suite 615**  
**New Orleans, LA 70112**

**Phone: (504) 568-5005**

**Fax: (504) 568-5006**



# ANTIBIOTIC SENSITIVITY ACTIVE SURVEILLANCE SYSTEM

## Background

The Antibiotic Sensitivity Active Surveillance System commenced in 1998 in an attempt to track the emergence of antibiotic resistant organisms. This federally funded surveillance program allows Louisiana to be part of a nationwide project to track and evaluate antibiotic resistant trends. Our surveillance system monitors three pathogens: Methicillin resistant *Staphylococcus aureus* (MRSA), drug resistant *Streptococcus pneumoniae* (DRSP), and Vancomycin resistant enterococcus (VRE).

The goals of the Antibiotic Sensitivity Active Surveillance System are:

1. To estimate the percent of selected bacteria in the state that are resistant to antibiotics, (MRSA, DRSP, and VRE) by the reporting of laboratory aggregate data
2. To describe the demographic characteristics of newly infected cases through the reporting of information as required by the Louisiana Sanitary Code, Chapter II, Section 2:003 and 2:004

## The Surveillance System

The Microbiology laboratory should report the total number of *Staphylococcus aureus*, *Streptococcus pneumoniae*, and enterococcus species isolated in their lab for each month. Among these isolates, the total number of drug resistant or drug intermediate resistant isolates should be reported. **Do not count duplicate isolates on a patient** (one isolate of MRSA, VRE, or DRSP per patient per hospital visit). Enclosed is a copy of the Aggregate Laboratory Data form. This form is to be filled out and returned to the Infectious Disease Epidemiology Department by the 20<sup>th</sup> of the next month. For instance, January data should arrive by the 20<sup>th</sup> of February. A quarterly and annual report of the cumulative data by public health region and statewide will be sent to you.

## Antibiotic Resistance

Resistance of common antibiotics is increasingly becoming a problem. These antibiotics work by affecting the cell wall, distorting the cell surface, inhibiting bacterial protein synthesis, or preventing DNA formation. Some bacteria are able to adapt survival mechanisms against these agents, thus weakening our ability to control disease. Surveillance systems have been initiated in an attempt to track emerging resistant strains. This information will lead to a better understanding of the pathogens and potential treatments. As aforementioned, Louisiana is monitoring the following three organisms.

### Methicillin Resistant *Staphylococcus aureus*

*Staphylococcus aureus* is commonly found in the nasal cavity, perineum, anal area, finger tips, among others. A fraction of these people are colonized with MRSA while others are acutely ill. Methicillin resistance to *S. aureus* is primarily due to the organism's ability to produce  $\beta$ lactamase, which is capable of breaking down the penicillin ring thus making it ineffective. Acquisition of MRSA infections is a common concern among both patients and staff in acute and long-term care facilities. By tracking MRSA, the Office of Public Health can continue to assist in monitoring the rate of serious MRSA infections and any vancomycin resistant *S. aureus* that may arise. Acute infections have become so numerous, in fact, that the amount of resources devoted to processing these reports now outweighs the amount of new and useful information generated from them. Laboratory information from sentinel sites continues to be an efficient and valuable method of tracking antimicrobial resistance within Louisiana.

### Drug Resistant *Streptococcus pneumoniae*

Streptococci are important agents of human disease, colonizers in the human flora, and agents of animal disease. *S. pneumoniae* is the most common cause of community acquired pneumonia both in children and adults. It causes approximately half of otitis media cases and it is very frequently the culprit of meningitis and sepsis. This human pathogen is commonly treated with penicillin; however, similar to many other organisms, *S. pneumoniae* has been reported to have a high resistance to penicillin.

### Vancomycin Resistant Enterococcus

Vancomycin resistant enterococcus is ubiquitous in the hospital environment, often found as a contaminant on medical equipment. Most patients are simply colonized and not infected (a ratio of 10:1). Persons at highest risk for VRE infections are those hospitalized with severe underlying or immunosuppressive conditions. These people may be affected by one of two mechanisms: drug resistance developed post-exposure to the antibiotic or via contact with the drug resistant pathogen (person to person or environmental).

Louisiana collects data on unspciated strains, as well as *E. faecalis* and *E. faecium*.

# **Louisiana Antibiotic Sensitivity Active Surveillance System Enrollment Form, 2003**

Please fill out completely and return to the Epidemiology Section as soon as possible.

Complete Hospital Name: \_\_\_\_\_

## **Infection Control Nurse:**

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

City: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone Number (     ) \_\_\_\_\_ Fax Number (     ) \_\_\_\_\_

E-mail Address \_\_\_\_\_

## **Laboratory:**

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

City: \_\_\_\_\_ ZIP: \_\_\_\_\_

Phone Number (     ) \_\_\_\_\_ Fax Number (     ) \_\_\_\_\_

E-mail Address \_\_\_\_\_

Please specify the primary contact person (*the person who submits the report each month and whom we should contact if there is a question or problem*):

\_\_\_\_\_

**Fax to: (504) 568-5006**

**Thank you!**

## Louisiana Antibiotic Sensitivity Active Surveillance System Aggregate Laboratory Data

Month:

Year:

Hospital Name:

Contact Person:

Contact Phone Number: (     )

*Streptococcus pneumoniae*

Total # isolates: \_\_\_\_\_

# penicillin resistant: \_\_\_\_\_

# penicillin intermediate: \_\_\_\_\_

*Staphylococcus aureus*

Total # isolates: \_\_\_\_\_

# methicillin resistant: \_\_\_\_\_

# vancomycin resistant: \_\_\_\_\_

*Enterococcus species* (use only if you do not differentiate *Enterococcus* species)

Total # isolates: \_\_\_\_\_

# vancomycin resistant: \_\_\_\_\_

# vancomycin intermediate: \_\_\_\_\_

*Enterococcus faecalis*

Total # isolates: \_\_\_\_\_

# vancomycin resistant: \_\_\_\_\_

# vancomycin intermediate: \_\_\_\_\_

*Enterococcus faecium*

Total # isolates: \_\_\_\_\_

# vancomycin resistant: \_\_\_\_\_

# vancomycin intermediate: \_\_\_\_\_

Please remember to not include duplicate records. The Louisiana Antibiotic Sensitivity Active Surveillance System requires only one isolate being reported, per patient, per hospitalization. Remember to include all isolated bacteria  
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